

CLAIMS:

1. Communications apparatus comprising means for receiving a modulated radio frequency signal, at least one means for down-converting a received modulated radio-frequency signal, means for digitising a down-converted signal and means for exporting at least a part of the digitised modulated signal to a personal computing device.
2. Communications apparatus as claimed in claim 1, wherein the means for exporting at least a part of the digitised modulated signal comprises means for connection to at least one bus within the personal computing device.
3. Communications apparatus as claimed in claim 2, wherein the means for exporting at least a part of the digitised modulated signal further comprises means for performing direct memory access with memory means located within the personal computing device.
- a 4. Communications apparatus as claimed in ~~any one of the claims 1 to 3~~, wherein the means for exporting at least a part of the digitised modulated signal comprises means for dividing the signal with respect to time.
- a 5. Communications apparatus as claimed in ~~any one of the claims 1 to 4~~, wherein the means for down-converting a received modulated radio-frequency signal comprises means for generating an in-phase down converted signal and a quadrature phase down-converted signal, and the means for digitising a down-converted signal comprises means for digitising the in-phase down converted signal and the quadrature phase down-converted signal.
- a 6. Communications apparatus as claimed in ~~any one of the claims 1 to 4~~, wherein the means for down-converting a received modulated radio-frequency signal comprises means for generating a single down-converted signal.

7. Communications apparatus as claimed in claim 6, wherein the means for down-converting a received modulated radio-frequency signal are arranged to convert the frequency of the received modulated radio signal by less than the centre frequency of the signal minus half of the bandwidth of the signal.

a 8. Communications apparatus as claimed in ~~any one of the claims 1 to 7~~, further comprising means for altering the bandwidth of the received modulated radio-frequency signal.

a 9. Communications apparatus as claimed in ~~any one of the claims 1 to 8~~, further comprising means for altering the centre frequency of the received modulated radio-frequency signal.

10. Communications apparatus as claimed in claim 9, wherein the means for altering the centre frequency of the received modulated radio-frequency signal comprise means for frequency-hopping.

a 11. Communications apparatus as claimed in ~~any one of the claims 1 to 10~~, further comprising means for altering the amplitude of the down converted received modulated radio-frequency signal.

a 12. Communications apparatus as claimed in ~~any one of the claims 8 to 11~~, wherein the means for altering parameters further comprise means for responding to at least one command from a personal computing device.

13. Communications apparatus as claimed in claim 12, wherein the means for altering parameters further comprises means for comparing that at least one command with at least one predetermined permitted parameter and means responsive only to commands possessing permitted parameters.

14. Communications apparatus as claimed in claim 13, further comprising means for altering the at least one permitted parameter in response to an encoded command from a personal computing device.

a 15. Communications apparatus as claimed in ~~any one of the claims 1 to 14~~, wherein the apparatus is adapted for installation within a personal computing device.

a 16. Communications apparatus as claimed in ~~any one of the claims 1 to 14~~, further comprising a personal computing device, the personal computing device comprising processing means and memory means which processing means are responsive to instructions stored in the memory means to demodulate the exported signal.

a 17. Communications apparatus as claimed in ~~any one of the claims 1 to 16~~, further comprising means for importing a digital modulated signal from a personal computing device, means for converting the digital modulated signal to an analogue signal, means for up-converting the analogue signal to a radio frequency signal and means for transmitting the radio frequency signal.

18. Communications apparatus comprising means for importing a digital modulated signal from a personal computing device, means for converting the digital modulated signal to an analogue signal, means for up-converting the analogue signal to a radio frequency signal and means for transmitting the radio frequency signal.

19. Communications apparatus as claimed in claim 18, wherein the means for importing at least a part of the digital modulated signal comprises means for connection to at least one bus within the personal computing device.

20. Communications apparatus as claimed in claim 19, wherein the means for importing at least a part of the digital modulated signal further comprises means for performing direct memory access with memory means located within the personal computing device.

a 21. Communications apparatus as claimed in ~~any one of the claims 18 to 21~~, wherein the means for importing at least a part of the digital modulated signal comprises means for assembling the signal with respect to time.

a 22. Communications apparatus as claimed in ~~any one of the claims 18 to 21~~, wherein the means for converting the digital modulated signal to an analogue signal comprises means for converting an in-phase signal and a quadrature phase signal.

23. Communications apparatus as claimed in claim 22, wherein the means for up-converting the analogue signal to a radio frequency signal comprises means responsive to an in-phase signal and a quadrature phase signal.

a 24. Communications apparatus as claimed in ~~any one of the claims 18 to 21~~, wherein the means for up-converting the analogue signal to a radio frequency signal comprises means responsive to a single analogue signal.

25. Communications apparatus as claimed in claim 24, wherein the means for up-converting the analogue signal to a radio frequency signal are arranged to alter the frequency of the analogue signal by less than a required transmission centre frequency of the signal minus half of the bandwidth of the signal.

a 26. Communications apparatus as claimed in ~~any one of the claims 18 to 25~~, further comprising means for controlling the bandwidth of the transmitted signal.

a 27. Communications apparatus as claimed in ~~any one of the claims 18 to 26~~, further comprising means for altering the centre frequency of the transmitted signal.

28. Communications apparatus as claimed in claim 27, wherein the means for altering the centre frequency of the transmitted signal comprises means for frequency-hopping.

a 29. Communications apparatus as claimed in ~~any one of the claims 18 to 28~~, further comprising means for altering the amplitude of the transmitted signal.

a 30. Communications apparatus as claimed in ~~any one of the claims 26 to 29~~, wherein the means for altering parameters further comprise means for receiving at least one command from a personal computing device, means for comparing that at least one command with at least one predetermined permitted parameter and means responsive only to commands possessing permitted parameters.

31. Communications apparatus as claimed in claim 30, further comprising means for altering the at least one permitted parameter in response to an encoded command from a personal computing device.

a 32. Communications apparatus as claimed in ~~any one of the claims 18 to 31~~, wherein the apparatus is adapted for installation within a personal computing device.

33. Communications apparatus as claimed in ~~any one of the claims 18 to 31~~, further comprising a personal computing device, the personal computing device comprising processing means and memory means which processing means are responsive to instructions stored in the memory means to demodulate the exported signal.

34. Communications apparatus substantially as hereinbefore described with reference to figures 1 and 6 to 22 of the accompanying drawings.